

NEW  
AND ORIGINAL THEORY  
ON  
CHOLERA.

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## PREFACE.

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My object in writing this small Circular is simply for the good of the masses, consequently it is intended to be intelligent, simple and truthful,—as much so as the nature of the subject will admit of; or as much so as my abilities will suggest; and if, in this way, I can contribute in any degree to the alleviation of human misery, and to advance the cause of Medical Science, I shall feel amply paid for all my trouble and expense.

P. V. DORLAND, M.D.



## INTRODUCTION.

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In the year eighteen hundred and fifty, sailing from Panama, Central America, for San Francisco, California, we called, out of necessity, at Acapulco, Mexico, to replenish our supply of coal. Scarcely had we let go our anchor, when we were admonished of our danger. The unpleasant word, *Cholera*, was in the mouths of every passenger: alarm was already to be noticed.

We had no alternative,—the coal we must have; and before we could get the quantity on board, the best part of three days was taken up.

Here it was that I firstly became acquainted with a peculiarity of atmosphere in a time of cholera. Many of the steerage passengers going ashore purchased fresh beef, and, bringing it on board, hung it up in the rigging; and, to their surprise, and the amazement of everybody, found it would commence manifestly to change in from two to five hours, the difference in time of decomposition depending upon the hour at which the animals were killed that morning. This appeared strange to all of us: for, having been in camp at Panama, waiting for steamer,

we had frequently left meat upon the branches of trees for days without the slightest indication of change. In fact, it would frequently dry before it would decompose, so great were the antiseptic qualities of the atmosphere along that part of the Pacific Coast.

At the commencement of the third day, the cholera attacked one of the passengers; and before night, some three were dead, and others not expected to live but a short time. The Captain became alarmed, and actually thought of abandoning the boat and getting upon the mountain near by; but the Surgeon on board advised him to put to sea, which he promptly did, and the salutary influences in one day were well marked; the most virulent symptoms began to give way, and on the fourth day out, no cases were reported. We were in another atmosphere, the steerage surroundings being about the same as when in harbour. Again I tried the old experiment, but with very different results. Arriving in San Francisco, some nine days' sail from Acapulco, we again had to encounter *the fell destroyer*; and by the same experiment I found the same results as in Acapulco. Not wishing to run any risks, I took my departure from San Francisco for the Sierra Nevada Mountains; and here, again, I found the air possessing its usual antiseptic properties. In 1866 this experiment was tried in France with similar results during a *cholera epidemic*, though they failed to give any cause, more than a

foul condition of the atmosphere. In 1861 I returned to Canada, and again I had an opportunity of testing the experiment with meat, and the results were like unto those in San Francisco and Acapulco; and here it was that I learned its true cause, a deficiency of electricity.

From this period down to 1866 I gave the subject of cholera all the attention possible for one engaged in actual practice. At this date the cholera had appeared at Quebec, New York and Montreal. The supposition was it would again visit our city; and as the previous visit had been very alarming and destructive to life, the corporate officials and editors of papers solicited some light on the subject of cholera from those they considered the guardians of public health. Under these circumstances it was that I wrote in the *Hastings Chronicle* the theory of cholera that I now publish to the world. At the solicitation of very many, it was published in pamphlet form, and generally distributed among the people; this will account in part for the style I selected, in so far as technicalities, medical or otherwise, have been avoided. I again have it re-printed in this same style, supposing it might fall into the hands of ordinary readers. The theory I place before the medical profession for a wholesome and honourable criticism. With the diction they have nothing whatever to do. The theory, I contend, is the only one on the subject that

at all harmonises with the experience we have had of the disease. How far it will harmonise in practice must yet be tested; but I do believe, and I have valid reasons for saying so—without fear of being called egotistic—that if a treatment with this theory in view be fully carried out, and which can be, we will realise the happy results of a victory over a disease that heretofore has been but slightly controlled, if at all, by the multifarious means at the disposal of the medical profession, and certainly has been very imperfectly understood. Rapid, vast, and all-important has been the progress of the science of medicine for at least the last twenty years, to the honour of the medical profession be it due; and yet I cannot but think there is something humiliating in the thought that so little has been done to elucidate the causes of cholera. In undertaking this task, I am well aware of the position I have placed myself in; sensible that it is calculated to awaken the deepest feelings of contempt in the bosoms of the sceptical, and to draw forth the sneers of very many. It is by no means an enviable task to step aside from the long beaten track of science into the unexplored and trackless regions of solitude and silence. Independent thought and fearless expression have ever drawn forth the scoffs of a certain portion of our community.

This class, however, I would simply ask to write a better one, or to prove this a useless one, or otherwise

to be branded, what they really are, fools or knaves, a hindrance to anything progressive, and a common pest in society.

Man is truly a progressive being intellectually—he should be. Is he not capable of a continuous expansion of his intellectual strength and grandeur, from infantile reason up to that sphere in which he can take a survey of the planetary heavens, scan the dimensions of the sun, analyze the works of his God, and comprehend somewhat the vast and complicated operations of his own mind? It will be conceded; yet to do this he must try. How many have tried? A Jenner did; a Columbus did. In fact we all must, if we ever wish to accomplish anything. To stand still is, at least, criminal. We are commanded to push forward with commendable zeal in all matters that relate to an understanding of the universe and ourselves.

With this principle in view, I present my theory; and although one may arise that will better harmonise in practice, I shall yet have the satisfaction of trying to elucidate a subject that has ever been full of obscurity, and its practice been attended with most pernicious results.

P. V. DORLAND, M.D.



## THE CHOLERA.

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All the theories, and all the hypotheses of any moment, that have been advanced by various authors, have taken it for granted that a specific poison does exist in the air that has the power of infusing itself into the system, in such a manner as to produce the disease called Cholera, and arguing from this standing point, they have concluded that it passes, in some way not yet explained, from one country to another—from one locality to another—from one individual to another. Some have advocated the theory with much feasibility that it is contagious in its very nature, that it will produce cholera without any unfavourable surroundings. Some have tried to show that it is barely, if at all, contagious, that it is purely epidemic; that to produce the cholera it must be associated with miasm of some kind. But all agree that it can only spread through and by virtue of its own specific character. Some will tell you it is not portable, *i.e.*: that it cannot be carried in clothes, or anything of this nature; others tell you it can. They all tell you it travels, but of the manner and mode of its passage, they are in an inextricable muddle. One says it travels after the manner of animalculæ, or how could it advance against adverse winds, or how could it leap over mountains and quarantine barriers, and pass thousands of miles across the trackless ocean, unless we admit it to be contagious and is carried over by vessels, etc. Another says it is a poison that travels,

and he does not know how, and scarcely can make a guess. Another says it is something of the nature of yeast, that floats through the air, and when it comes in contact with a material, be it what it may, for he does not know, a ferment is at once established, and cholera must ensue. For my part I do not believe in either the one theory or the other. In fact I do not believe in any such specific poison: it has never been shown to exist, and I do not believe it ever will be. That a certain condition of the atmosphere does exist that is essential to the producing of this disease, no one will deny, and that this disease has existed for centuries in countries where it was favourable for its development, no one will doubt; and that this condition of air has ever existed in some parts of the world (whether those parts were ever peopled) is very likely, and that miasmatic conditions were associated with this peculiarity of atmosphere we have every reason to believe—to what extent they act and re-act upon one another, depends greatly, no doubt, upon the disinfecting properties of the ozone. Whether one common cause produces the deficiency of electricity, and the decomposition of vegetable matter, I can only conjecture. We have reason to know, however, that these conditions exist separately, though frequently associated, and in this way it is that cholera is produced. Example, the cause that would produce both malaria and a deficiency of electricity in some low flat place, would, on some elevated hill, only produce a deficiency of electricity. With these remote causes I have nothing at present to do. It is enough for me to know that such a state of atmosphere does exist in times of *cholera*, and that from it we have always had similar results, and when I say I can see nothing more strange in the origin of cholera, and its progress, or in its very nature, than many other diseases, I assert more than I have noticed from

many learned authors, that no doubt have given the subject much thought and investigation; and without some lucid reason for said expression, it would be considered almost ludicrous, even presumptuous.

*How cholera came to this country, and why it took seventeen years, and how it came here the second time in eighteen months.*

Our climate is constantly undergoing a change. From the commencement of the world on down to the present, it must have been going on. A gradual progression towards equalization, throughout this vast terrestrial globe, is certainly the design of our Great Natural Architect. The climate of India to-day is more like the climate of England in many respects, which can be clearly shown, than it was one hundred years ago. Surely we have diseases here as well as in America that some years ago were unknown to us, that have been common in India for ages. Diptheria was not known here very many years ago, or at least it was not in America, though it has always been common in India, if my authority be correct, and yet it is not thought to be epidemic, or to have been carried here by contagion, like unto cholera, or by any specific means. We have here an electrical condition of atmosphere, in the time of cholera precisely like unto that in India, often other conditions the same, which experience has shown. In Canada, where cholera prevails, we have the same, and in France the same, and in Germany, and no doubt over the world. Climatic assimilation then being established, we have diseases before unknown. Our climate assimilating more now than formerly that of India, similar diseases have been developed among us.

If it were some specific poison in the air, why did it take seventeen years to get from Bengal, India, to England, the first time it came over, and the second time within two years? The difference simply was,

that it came along slowly the first time, because climatic assimilation was not sufficiently established; and the second time, this being accomplished, it came along subject to the seasons, these being different in different places as to temperature. As I have intimated, it is shown that in India in certain parts, where the cholera exists, and as I said it is shown in every country at this time, that electricity is greatly deficient, and that ozone is absent.

Ozone may be produced in various ways, but what is found in the atmosphere generally is no doubt the product of electricity. It is also a peculiar modification of oxygen. That it is a great purifier and therefore a great decomposer of miasm, is not questioned, that ozone is less in quantity when there is a deficiency of electricity, is an experimental fact, but it is not probable that it would be all absent in the air if it were not on account both of miasm and the electrical deficiency. We have then, in the first place, a great purifier, absent ozone. We have also a powerful stimulant and equalizer, electricity proven to be in these times very greatly deficient, and of its importance to the animal economy we are scarcely able to give an opinion, much less to appreciate, so little have the sciences done to develop its magnitude and relations to our systems. It is said to be, and we have no reason to doubt it, the efficient cause of all convulsions, calms, and storms in nature, and of all the pleasing or awful phenomena that transpire in earth, air, or ocean, or in the vegetable or mineral kingdom, so as man is but an epitome of the universe, it is electricity in the form of nervous fluid that produces all the convulsions, calms, and storms in his own system, no doubt of it, for it is well known to enter into the very nerve substance, and that nervous action, at least, depends greatly, if not altogether upon it. It is certainly the agent by which the mind through the nerves as

conductors, contracts the muscles and produces motion. It is the agent no doubt between mind and matter. If we touch a stick or stone and it is hot, that idea is conveyed to the mind through electricity as its agent. This electric fluid then constitutes the so-called nervous action. If the nerve of the arm be paralyzed, you may then place your finger on a hot substance of any kind, and the sensation will not be conveyed to the brain or mind, though the nerve to all appearance is perfectly sound and intact. If this nervous action is an electrical one, it follows that it moves the blood limitedly at least, and that all other actions are subservient to it, more or less; and with no other knowledge of electricity than this, I am free to assert that it contributes by far the most important element in man, as well as the universe.

That this electricity of the system may be thrown out of balance by certain conditions of the system, and especially so in cholera times, when there is already a deficiency in the system, need not be doubted. To illustrate: a man has his stomach deranged from a poison that has been taken into the system, and, finding its outlet through the stomach, increasing materially the secretions, attended with irritation or congestion. This derangement itself invites the blood from the skin or surface to the alimentary canal; the skin being robbed of its moisture by this action, the electricity of the nerves follows the moisture, because it has a strong affinity for it. In proof of this fact, electricity cannot be gathered in damp weather, the moisture for which it has a strong affinity holds it; and as the electrical force is drawn away from the brain and surface, the countenance becomes pale; an expansion of collapse takes hold of the stomach, and vomiting is the result. It will be observed that the first symptom in cholera is diarrhœa; the second, purging and vomiting; and at this time may be dis-

tinctly noticed the lividity and coldness of the surface of the body, the temperature lessened, with cramps, and probably collapse; and if death do not take place, the stage of consecutive fever sets in.

When the lividity and the lessening of temperature takes place, the electricity is going inwards, and begins to lose its balance in the system. In a case of paralysis of the arm, or any member of the body, it loses its temperature greatly; but we can restore it temporarily by the action of electricity, showing that a nervous force is necessary as well, as the circulation of the blood to keep up a due supply of heat in the member, and also shows how important a part this electric fluid plays throughout the animal economy.

From the conditions referred to, what must follow? Decomposition goes on uninterruptedly in places favourable for such action. The human system, not supplied with a sufficient and well regulated stimulating force through its accustomed electrical channel, is, of course, rendered more susceptible to the influences of this virulent miasmatic poison. (I suppose no one will deny that electricity is a stimulant in proper proportions to the system, even if they doubt its taking any special part by its attraction for moisture in the unusual action of the stomach and bowels in times of cholera. Believe what you please of electricity, only I want you to realise the fact, that it plays an important part in the production of cholera.) The poison communicated to us being more powerful than usual, and the system, as I have shown, less prepared to defend itself against so formidable an enemy, places us truly in rather an untenable position, unless great care and caution be ever uppermost in our minds.

We can readily picture to our minds the onslaught likely to be made without these requisites. Take away a great portion of my power, and give me more than double my usual duties in trying to expel from

my system a poison, and it can readily be seen how sudden a demise. Do not those nerves supply every little capillary of the mucous membrane of the bowels? and if these nerves lose their force by over stimulation, or by the lack of it, we can readily see how the blood vessels will at once become relaxed, improperly balanced as their action would be, and thus the serum of the blood escape into the bowels; and this, with the disintegrated epithelium cells, constitute the rice water stools. May I not ask the profession if they have not, since the cholera first made its appearance in this country, time after time, had cases of what are called sporadic cholera? Every one must have had. I had one last summer, showing every known symptom. There never was a case of a more genuine character: it was cholera—the same disease they have in India; and the tests made use of showed the atmosphere of that room to be the same that prevails in certain localities in cholera times. There is no doubt that cholera may be produced in your house, and no other case existing in the city at the time; and this leads us to ask the very important question,

### WHAT IS CHOLERA ?

I answer a disease produced in part from the absorption into the system, either by inhalation, or by drink and food, of a poison, the products of animal and vegetable matter, and partly by a deficiency of electricity and an absence of ozone in the atmosphere, and that we cannot have this disease without these combined conditions; and I assert from no specific cholera poison at all. The poison exists always, more or less, round and about us, and produces diseases, such as typhus, typhoid and intermittent fevers, remittent, though it is less in degree.

It is said that it does not show itself at the same time in different places; as I said, there is a difference in the degree of heat in these places, and, therefore, the process of decomposition cannot be equal. There might, also, exist a great difference between these places in the quantity of decomposing materials; and in this way, other conditions being equal, the results would not be alike. After climatic assimilation; the disease, in its course, from one place to another, depends upon the irregularities of the seasons in the various localities. Cholera, it is well known, will leave a place, and, after a little time, come back again, though it is not usual.

Cholera mostly always appears in London before it does in New York or British America, simply because decomposition commences in London before it does in New York; and vegetation being earlier in India than London, the cholera was first to appear there. The seasons varying but little in India, we find the disease in some parts constantly, at times, much more aggravated, owing to the first causes, and of which we know but little.

History tells us the cholera is more common in long continued hot climates, though it did not appear to have shown itself in any climate for a number of years, except that of India; and from this we must infer that the causes of certain changes in the air of a character sufficient to produce this disease must only have been common to India; and if it were a specific poison, or something that travelled, or something that was contagious, why did it not find its way long before to England, as there was intercourse between these two countries, commercially and otherwise. It is said that cholera travels along the lines of commercial intercourse, in the track of caravans, and from port to port, across seas or oceans, in the course of large streams, &c. They have so thoroughly made

up their minds that this most mysterious poison travels from place to place, that they never even think there might be no travelling powers about it at all.

They show, or try to, that because it follows up commercial intercourse or roads, it, therefore, must be contagious, or have some inherent power of spreading; but it is perfectly fallacious, and will bear no criticism whatever. Most large cities are on common roads, and, of course, those are the places to find some of the essential conditions of cholera. Example.—The electricity is as deficient in a small country town, probably, as in London; in this respect they are alike. The locations may be similar as to dampness and lowness of soil, decomposition in these respects the same; but are there not more abuses of every kind in London? Are there not more poor people? are they not more huddled up together in small, ill-ventilated houses? are not many of them badly clad? and are not these poor people too frequently surrounded by filthy lanes, yards, &c. &c.? and are not these causes sufficient to give them disease alone? Which, I ask, are more likely to have the cholera? those in London, or those in a small country village, living far off from the main thoroughfares of the country.

Suppose the disease prefers the course of streams: this is quite likely, and could not be otherwise, if my theory be correct. It is only in accordance with well attested facts that miasma has a strong affinity for low, moist places, and that it gravitates to the lowest parts of the earth's surface.

Dr. Watson says "the crews of vessels sailing from healthy places remain free from the disease until they have entered an infected port, or held intercourse with an infected shore"—this is simply a mistake, as facts well show, and is no proof that it is contagious, as we wish to show, neither is it any proof that it travels in any way from one place to another. Dr. Watson says—

“in our own country it first planted its foot in a seaport town, on the east coast, over against the mainland, where cholera was raging, and where ships had very recently arrived.”—This only means a little difference in the process of decomposition or temperature, as I have before explained, in the two localities.

Long since, as well as more recently, we have instances of Dr. Watson's ideas being incorrect, as to persons never taking the disease when they have sailed from healthy ports, nor until they have come into the infected ports.

Two ships sailed from a healthy port—Havre, France—one for New Orleans, and the other for New York. The one bound for New Orleans was out twenty-six days, and the one for New York fifteen days, before any of the passengers were attacked. Dr. Wood refers to these cases as proof that cholera is not contagious, but a specific epidemic poison, floating through the air. Wood says the cholera did not exist at the ports they sailed from; and as cholera does not have so many days of incubation, these vessels must have accidentally come in contact with the specific somewhere on the trackless deep. Two vessels, it will be noticed, thousands of miles from mainland, where they were tossed from billow to billow by the powerful wind, fell in contact with this specific something. I am satisfied no person will believe for a moment that animalculæ (which is the theory advocated), or any specific of, that nature, could travel across the mighty Atlantic, against the almost constant and powerful winds that from time to time prevail. Any specific poison of any other nature would be diluted, and the animalculæ would certainly be lost in space. If it be conceded, however, that the whole atmosphere of the area of the mighty Atlantic be impregnated with this poison, be it what it may, or even certain latitudes, we might fall into the same belief of Wood—but this is purely

speculative. To my mind Wood's reasoning is more hypothetical even than Watson's, for, certainly, there is not required any great stretch of imagination on the part of any person to readily conceive how the depressing influences of a deficiency of electricity, and an absence of ozone in the steerage surroundings might produce, in mid-ocean, the cholera, particularly when we are familiar with the fact that electrical and ozoniferous currents appear to be governed by no known law.

How easily we can picture to our minds (particularly those that have been on board a vessel for some weeks or months) the fearfully contaminated condition of the steerage department; a place where hundreds are huddled together; badly ventilated, in fact, no facilities to ventilate properly, and seldom any inclination on the part of the officers, with food and drink to correspond with the price they paid for their tickets of passage. Need we be surprised, with unfavourable conditions of the atmosphere, and with the large amount of animal poison generated from day to day in such a hell, that cholera should attack them?—is there common sense in attributing the cause to any specific poison floating on the face of the mighty deep? And we cannot agree with Dr. Watson that it was carried there by clothes, or contagion of any class, for there was no cholera at the ports where these vessels sailed from; therefore I am sure a thinking public will agree with me that the causes are as I have intimated. And we have strong corroborative evidence of my *theory* being correct, from the fact, that for four successive epidemics, the cholera disappeared as the ozoniferous currents set in, and during one of these epidemics, at three widely separated places, the same results were experimentally noted.

In 1866, two steamers, *England* and *Virginia*, left this continent for that of America, and, when near

the opposite shore, the cholera broke out on board of each in about the same latitude and about the same time. There was no cholera at the ports from which they sailed, and there was none at the ports destined.

There was not one case in the cabin of either vessel, a fact of much importance. Those in the steerage that took it, did not from drinking the water, for the cabin passengers drank the same; nor did they take it from the contaminated condition of the steerage specially, for it was shown that the same departments in many vessels have been found infinitely worse, and for a succession of years, and yet they did not have the cholera. These hells have been found so deleterious to health that nearly half of their numbers died; and yet there was no cholera at that time known. Those on board the *Virginia* and *England* certainly did not take it from animalculæ, or the cabin passengers must have had it. An imaginary line would not be any barrier, and for the same reason there was no specific contagion; nor was it a deficiency of ozone itself that gave them the cholera, or else the cabin passengers would have had it.

It, therefore, follows that we must have the proper conditions to produce it. It also follows that it is a disease controllable simply by keeping these conditions separate, like unto emulsine, taken by itself is harmless, but take with it a dose of *amygdaline*, and you will have produced within your system a most deadly poison, *hydrocyanic acid*. *dr*

At all events, facts cannot be controverted; and if no experiments were made on board those vessels, showing a deficiency of electricity, it can readily be inferred, as altogether likely, from the fact of said conditions existing in so many previous epidemics, as well as no other reasonable way to account for such a phenomena. I am yet to learn that an experiment was ever made, showing in time of cholera an absence of those conditions.

“As regards the last epidemic,” says an author, of three hundred medical men in Bengal, “during the prevalence of cholera but three took the disease. At Bombay none of the hospital attendants were attacked, though they were with the patients day and night. Of one hundred and one at the Hospital Royal, Madras, but one was attacked, though they commonly shared the same bed with the patient, when off duty. Those who escaped the scourge followed the medical directions to prevent it, the principal ones being cleanliness and proper diet.”

It may be asked, is there any authority to show that such a state of climate does exist in times of cholera? I answer, most certainly. Consult the reports of Mr. Glaisher, of this city, London, as to a deficiency of electricity in three epidemics. Corroborative of his experiments, I refer to D. Z. Moffatt. He says, “About the 1st of September, 1853, cholera appeared in Newcastle. On the 20th the number of deaths was: cholera, 108; diarrhœa, 10. On the 19th the south or ozoniferous current of air set in and continued. On the 28th the number of deaths reported was, cholera, 18; diarrhœa, 2. From the 1st September to the 19th the mean quantity of ozone was scarcely 1.0 of my scale; but from the latter date to the end of the month, it ranged from 3 to 8 daily.” “The epidemic in London,” says an author, “in 1854 disappeared with the setting in of similar atmospheric conditions. Those that are familiar with the history of Africa are aware, probably, that in that country, or many parts of it, they have much lightning, and that where they have, cholera has never been known, and the old saying, almost proverbial, is also truthful, that, when thunder and lightning come, cholera disappears. In R. E. S. Jackson’s work on Climatology the reader would infer, from what he says, that violent thunder storms have pre-

veiled in cholera times, and that such a state of atmosphere may be compatible with cholera. I have every reason to know to the contrary, from the history of cholera since it first commenced, from my own knowledge of it, and the knowledge of very many private individuals. That thunder storms have arisen during the existence of cholera I am well aware; but, as I said, the cholera began at once to abate.

Can it be doubted, then, that these conditions I have spoken of are quite sufficient to produce, and that without them we would have no cholera at all? How many have observed, during their experience in hot climates, the frequency of cholera-morbus, dysentery, and the like. How many have noticed medical students, with a lowered vital force in dissecting rooms, to be troubled with diarrhœa symptoms analogous to the first stages of cholera, and yet they did not have cholera, and why? Because there was a due supply of ozone and electricity in the air round and about them. The poison could not become concentrated enough to produce such direful effects, so long as the secret antagonist to epidemics was present in ordinary quantities. I spent some time in 1860 and 61 in Savannah, Georgia, one of the Southern States, as well as in Florida and Cuba, a short time at Panama and at Vera Cruz, where I learned something of the scourge of yellow fever, and I could only come to one conclusion, and that was that the yellow fever, the typhoid, the typhus, the relapsing, the intermittent, breakbone, and many others, all arose from one cause, with varying intensity. Where yellow fever prevails we find evidence of much malarial poison, with the ozone somewhat deficient, but never absent, as often the case in cholera. Yellow fever is never absent at Vera Cruz, on the seaboard of Mexico, whilst at Xalapa, in the same parallel, but an elevation of 4331 feet, it is unknown. The low-lying *tierra caliente* of Mexico is the hotbed of

intermittent fever, whilst the city Mexico, in the same latitude, at an elevation of 7450 feet, is almost free from it.

During the last epidemic, three very able physicians, with whom I am personally acquainted, attempted to show that cholera was really a contagious disease: they published their accumulated evidence, and really thought it was irresistibly proven. The supposed facts were, that they knew three washerwomen that were attacked with the disease and died, from washing the clothes of cholera patients; this simply proves nothing.

Upon these clothes, no doubt, could be found a large amount of concentrated animal miasm, such as the rice water evacuations, and these clothes being placed in hot water, gave the miasm, which has a strong affinity for moisture, an excellent medium to be carried upwards, and to be inhaled by the poor washerwomen. The said women being poor and overworked, and living in, no doubt, a badly-ventilated house, in very likely an unhealthy part of the city, and with an atmosphere common to cholera, which at that time existed in the city spoken of, rendered them almost certain to take the disease. These poor women, by inhaling this miasm, put themselves in the same position as if they had lived beside a cesspool, or had carried in the said clothes a decomposed animal of some kind, and, in either case, would only show it to be portable, and then only under certain conditions.

In 1817 the cholera first broke out in Lord Hastings' army, and from its commencement spread terror and death. For ten days the camp was nothing but an hospital. In one week 764 soldiers and 8,000 camp followers perished. At length the troops were removed to a higher cantonment, and the malady at once ceased. We cannot, however, always depend upon altitude, for cholera has been known to ascend very high, and there

is no reason why the one condition might not exist there limitedly, viz. a deficiency of electricity, but there are many reasons why the other is not likely to occur. Decomposed animal or vegetable matter might be carried there, and thus the cholera produced.

Again, I cannot believe in the present received doctrine that cholera is a zymotic disease, nor do I think that any disease arising from the decomposition of animal or vegetable matter is of that nature.

No person, I am sure, will say that intermittent fever is, or that the congestive chill is, common in many of the Southern States, and as typhoid fever in its first stages, and yellow fever arise from the same causes, only varying in intensity in different systems, neither are they zymotic, and for the same reason cholera is not.

We never have had any evidence of it. The blood of typhoid fever and yellow fever patients has been tested again and again for that purpose, but no action of the kind has been detected. The blood in fermentating or any liquid that is in a fermentative condition, gives off unmistakable evidence of that *process*, even to the common observer, by the crackling noise and odor always present. The blood of cholera patients has been examined before and immediately after death, and it presented its usual structural characters and peculiarities. The red and white corpuscles were of the natural size and form, and of ordinary appearance, and no manifestation of ferment.

The rice water stools have been microscopically and otherwise examined, and nothing of that nature has been observed. The only peculiarity of the rice water stools was, they swarmed with vibriones, an important matter to bear in mind during a *cholera epidemic*, viz.—to destroy these vibriones before they begin to decompose.

FIRSTLY.—If it were a zymotic disease, certainly M. Hamies and M. Foy, and others that have done

the same thing, would have contracted it—they swallowed the rice water discharges and injected the surface with it, without even contracting it, or experiencing the least symptoms; another proof of its being non-contagious.

SECONDLY.—It cannot be zymotic, or the disease would not leave a patient by simply changing from an unhealthy to a healthy climate, when at the same time the temperature of the blood was in no way changed.

THIRDLY.—If zymotic, there would not be so many repetitions of it. Having the yellow fever once, or the cholera, or typhoid, does not exempt you in the least from having it the second, third, or fourth time. I have met with many that had it four times, and very many that had it twice. I practised for some years in a city where it was quite common.

FOURTHLY.—If zymotic disease were produced from those poisons that every-day we inhale and absorb, or take in as food or drink, our blood could only be in a fermented condition all the time. Every large unhealthy wound, attended with more or less sloughing, as many of them are, would produce a disease—"a little lump leaveneth the whole bread."

In fact, these poisons are simply like many others, alcohol, for instance; and, like unto alcohol, the system will become more or less accustomed to their influence, though at the expense of the system. You can readily tell a man that has been any length of time in Central America by his complexion; and, although he is exempt to a great degree from disease the common there, another that has recently gone there, will very likely take it, and might die.

The child that has never taken any spirits may be killed by a quantity that would have no effect upon the father, who has habituated himself to its use.

Like alcohol, this animal and vegetable decomposition must be driven out of the system, if possible,

and it is taken out the same as it went in; and no doubt, if it could be detected, would be found in large quantities in the rice water stools, closely allied to the vibriones. Alcohol is taken from the system by the kidneys; for it can be detected in the urine in its purity, unless too concentrated, then Nature in her effort might succumb. It does not ferment, however; and it is really inconsistent to suppose that those common poisons produce any such effect, and, as I have said, there is no evidence of it; it can only be surmise.

Typhoid fever may produce a low form of disease akin to ichorrhœmia, or pyæmia, and frequently does, on or about the time Peyer's Glands, or other tracts, in the intestinal canal, begin to ulcerate; evidently, by the absorption of the material from the surface ulcer, and in this way, we have oftentimes a very formidable disease to manage. Nature, quite exhausted in trying to eliminate the typhoid poison, now has another enemy to battle, and between the two may collapse. If a typhoid fever patient were at once removed from the locality where the disease was contracted into a healthy place, or the same place properly disinfected, and the patient assisted in eliminating thoroughly the poison, and having no serious organic disease as a predisposing cause, I do say that typhoid fever may be cut short, and not like unto the Small-pox, run its course in spite of treatment, and that in a few days the patient be perfectly convalescent. Typhoid fever poison, being very insidious, oftentimes gets such a thorough hold of the system, that you cannot check it, not having seen it in time. Again, like unto cholera poison it may kill a very susceptible patient quickly, the system never re-acting. These poisons may kill the man without re-action, that has established an amyloid degeneration of the liver, or alimentary canal, the spleen, or some other important

organism; and in this way it is that fatality, more or less, must ever continue among those predisposed to the influences of those poisons. Any causes that lower the system are predisposing, and such persons should be very particular in avoiding any infected locality.

I am aware that the opinion I have given on typhoid fever differs essentially from many authors. I must say that I have very little confidence in many medical authors. At the same time, there are some that constitute really an ornament and a true light to the profession of medicine, and in whom I have every confidence. A large majority, however, I am well satisfied, as to the treatment of very many diseases, depend more upon the writings of their predecessors and the prejudices of their teaching, than upon personal or general investigation.

This principle has killed its thousands, and should receive the free condemnation of every true physician. See Bennett's and Andral's statistics as to the treatment of pneumonia, and then let every honest physician reflect, and he can only be alarmed at the murders that have been committed by a scientific community. And with all this knowledge before us, there are thousands at this present day that are practising the art of bleeding in those very diseases; and authors writing works favourable to such a procedure, pandering as they do to the prejudices of many too idle to investigate and too imbecile to originate.

I am of the opinion that no medical author should prescribe any treatment that has not been tried and compared with the curative powers of mother nature alone, unaided—mother nature should be the landmark so far as results in medical treatment are concerned. There should be a medical committee, specially appointed for the whole civilized world, and their duties should be to test every known remedy now recommended for disease. Firstly with nature's capacities,

and if found a good assistant, then its virtues should be compared with other remedies, until some medicine is found most curative. And the law relating to this committee should be such that no author in publishing a work for the guidance of others should prescribe any medicine for any disease unless the usual tests were made by the proper committee; and that after this law should once be established, it would be lawful and proper to deal with any medical man that bled and administered a treatment that by this committee was proven to be pernicious, the same as though he attempted to kill. Each government should appoint a number of persons for this special purpose; they should act jointly, and should not practice medicine privately, only in the hospitals for purely experimental purposes; they should be supported and well-paid by the respective governments—and then, indeed, would the science of medicine progress.

All other sciences are worked upon this principle. Would Her Majesty's Government think of sending out a monitor to combat the enemy before her machinery, and works generally, had been tried and compared with other similar works by a competent committee?—would any one man's word be taken for granted and acted upon as to any new invention he might recommend?—I should think not. Yet Her Majesty's government and the governments of the world are willing to place the lives of their subjects into the hands of those that prescribe a medicine or treatment that really is known to produce death, and strange and astounding as it may appear make no efforts to abolish the system.

It is said by somebody that the value placed upon individual life by a community is one of the great tests of its civilization.

A short time since the lives of many cattle were in jeopardy, and then it was that enormous sums were

spent by the government in making laws in view of *their* preservation; but how parsimonious the hand that makes efficient laws when men's lives are at stake!

### SUMMARY.

1. This theory removes one of the great mysteries that has ever hung over cholera, viz. how it came from India to this country, CLIMATIC ASSIMILATION.

2. And when here, it shows plainly how it goes from one place to another, viz. the difference in seasons in the various places and countries it visits, associated, as it always is, with the electrical or ozoniferous currents, which are not governed by any known law, and are frequently erratic in their course, corresponding with that of cholera.

3. It shows cholera to arise from two conditions, viz. the product of animal and vegetable decomposition, which can readily be prevented, but if it should arise, to properly disinfect and to live in a manner compatible with the times. The second condition, an absence of Nature's purifier, Ozone, which arises from a deficiency of electricity, one of Nature's most important equalizers and stimulants, which, in times of cholera, can better be supplied by removing to a place that, by experiment, is shown to be healthy.

The theory I have advanced is mostly deduced from facts founded upon experimental and general observations, and only requires a further and more extended repetition to establish it a law.

This theory, if properly understood by the masses, puts their lives virtually at their own disposal.

It banishes terror and fear, that has been one of the means of killing millions.

It will induce the masses to resort to measures antiseptic, disinfectant, &c., as well as to avoid predisposing and exciting causes in general; and in this way my theory must be attended with good practical results.